

## **Pre-Bid Workshop**

GFO-16-506
Off-Road Heavy-Duty Natural Gas Vehicle Research and Development

November 4, 2016

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California Energy Commission



## **Agenda**

- Welcome and Introduction
- Natural Gas R&D Program Transportation Research Area
- PON Background
- Overview of Grant Solicitation Application Manual
- Questions and Answers



# Housekeeping

- ...In case of fire
- ...Local facilities
- ...Muting of WebEx during presentation
- ...Q&A protocol



## **Commitment to Diversity**

The Energy Commission adopted a resolution strengthening its commitment to diversity in our funding programs. We continue to encourage disadvantaged and underrepresented businesses and communities to engage in and benefit from our many programs.

To meet this commitment, Energy Commission staff conducts outreach efforts and activities to:

- Engage with disadvantaged and underrepresented groups throughout the state.
- Notify potential new applicants about the Energy Commission's funding opportunities.
- Assist applicants in understanding how to apply for funding from the Energy Commission's programs.
- Survey participants to measure progress in diversity outreach efforts.



### We Want to Hear From You!

#### 1 Minute Survey

 The information supplied will be used for public reporting purposes to display anonymous overall attendance of diverse groups.



- Does your company identify as an underrepresented group?
- Where is your company located?
- How did you hear about the workshop?
- Online survey for WebEx Participants:

https://www.surveymonkey.com/r/CEC-11-03-2016



# **Policy Drivers**

The following policies and legislation guide the Natural Gas Vehicle Technology Research agenda:

Executive Order B-32-15	Directs the development of the Sustainable Freight Action Plan to improve freight efficiency, transition to ZEV technologies, and increase California freight system competitiveness.	
Low Carbon Fuel Standard	Encourages the use and production of cleaner low-carbon fuels in California to reduce GHG emissions.	
Assembly Bill 118 / 8 (ARFVTP)	Authorizes the Energy Commission to develop and deploy alternative and renewable fuels and advanced transportation technologies to help attain the state's climate change goals.	
Assembly Bill 32	Calls for approximately 36 percent of the state's 2020 GHG reduction targets to come from the transportation sector.	
Executive Order B-30-15	Sets statewide GHG emission reduction goals to 40 percent below 1990 levels by 2030 and 80 percent below 1990 levels by 2050.	



## **Transportation Research Goals**

#### The goals of transportation-related projects are to:

- Improve natural gas and electricity infrastructure capacity, reliability, and sustainability
- Improve air quality
- Decrease petroleum usage
- Reduce carbon emissions by increasing the use of renewable natural gas for transportation



## **General Approach to NGV R&D**

- Identify research gaps to develop and target research initiatives:
  - Discussion with utilities, governmental agencies, and stakeholders
  - Develop Roadmaps to determine research priorities
  - Public meetings with industry, stakeholders, and end users
  - Solicit research ideas from the public
- Research projects selected through competitive solicitations
- Policy connections linked to energy issues
- Clearly identify ratepayer benefits



### **Context of this Research**

- Off-road vehicles are one of the largest sources of emissions in South Coast and San Joaquin Valley Air Basins.
- Ports and Military are aggressively seeking clean energy technologies.
- Off-road natural gas vehicle market penetration has been constrained due to technology/engine availability.
- Technological needs for off-road market penetration to determine best approach for funding use.



## Purpose of the Solicitation

- The purpose of this solicitation is to support the development, integration and demonstration of advanced natural gas engines in off-road vehicle applications.
- Research and Development is needed to leverage advanced on-road natural gas engine technologies and adapt to off-road vehicles capable of exceeding current, Tier 4, emission regulations while concurrently meeting the performance needs of off-road vehicles.



### **Eligible Applicants and Requirements**

- Open solicitation seeking proposals from public and private entities.
- Applicant must agree to use the version of the Natural Gas R&D Grant Program Terms and Conditions that corresponds to its organization.
- Applicants are required to register and be in good standing with the California Secretary of State to enter into an agreement with the Energy Commission.
- Preference points will be given to California-Based Entities (CBEs) during the evaluation process. (see Attachment 12)



### **Eligible Applicants and Requirements**

- Projects for this Solicitation must fall within one of the following project groups:
  - Group 1: Off-Road Research and Development South Coast Air Basin
    - Demonstrations must be done in the South Coast Air Basin.
  - Group 2: Off-Road Research and Development San Joaquin Valley Air Basin
    - Demonstrations must be done in the San Joaquin Valley Air Basin
  - Group 3: Off-Road Research and Development California Ports and Military Bases
    - Demonstrations must be done in a California Port or Military Base



## **Eligible Projects**

- Eligible projects will demonstrate promising technologies that advance the performance, fuel efficiency, and competitiveness of natural gas engines that can be integrated into off-road vehicle applications.
- Natural gas engines systems developed under each project must demonstrate the following:
  - Development of a natural gas engine for off-road vehicle applications incorporating existing advanced on-road engine technology.
  - Integration and optimization of the natural gas engine to achieve economic and commercial viability.
  - Integration of production or production ready prototype natural gas engines and aftertreatment systems into off-road chassis and vehicles.
  - Provision for onboard fuel storage equipment suitable for the application



# Eligible Projects (cont'd)

- Natural gas engines systems developed under each project <u>must</u> demonstrate the following:
  - Involvement of the engine manufacturer or vehicle original equipment manufacturer (OEM), (or third party designated by OEM) with regards to chassis integration.
  - Engine and vehicle systems able to meet or exceed current off-road Tier 4
     CARB emission standards and meet in-use off-road vehicle regulations.
  - Include a commercialization and emission certification plan that identifies all emission reduction goals for project and clearly describes the path for certification and commercialization.
  - Testing and demonstration of off-road vehicles in California. Demonstration should include data collection to verify performance in a real-world setting.
  - Access to existing CNG or LNG fueling infrastructure, or ability to establish infrastructure for use throughout duration of project.
  - All test/ demonstration/ deployment sites are located in a California Natural Gas IOU service territory (Pacific Gas & Electric, Southern California Gas Company, or San Diego Gas & Electric).



### What's Different?

- Fund only one of two or more similar projects (page 8)
- Project Requirements (page 12)
  - Development of a natural gas engine for off-road vehicle applications incorporating advanced on-road engine technology from existing natural gas engines..
  - Integration and optimization of the natural gas engine to achieve economic and commercial viability.
  - Integration of new production or production ready prototype natural gas engines and aftertreatment systems into new off-road chassis and vehicles platforms.
  - Provision of <u>for</u> onboard fuel storage equipment suitable for the application with appropriate certification.
  - Include a commercialization and emission certification plan that identifies all emission reduction goals for project and clearly describes the path for <u>certification and</u> commercialization and certification.
  - Testing and demonstration of off-road vehicles in California. Demonstration should include data collection to verify emissions and performance in a real-world setting.
  - Select fleets for demonstration that have existing off-road vehicle fleets with similar equivalent engines families that can be directly compared to the natural gas off-road vehicles being demonstrated in order to provide current and relative relevant comparison data.



### What's Different (cont'd)?

- Project Requirements (page 12)
  - For this solicitation, off-road vehicles are as defined by the California Air Resources
    Board, and exclude Small Off-Road Engines and Equipment Less Than 25
    Horsepower, Off-Highway Recreational Vehicles, <u>Ocean-Going</u> Marine Vessels, and
    Recreational Marine Vessels
- Scoring Criteria (page 27)
  - Technical Merit
    - b. Summarizes the current status of the relevant technology and/or scientific knowledge, and explains <u>in relevant detail</u> how the proposed project will advance, supplement, and/or replace current technology and/or scientific knowledge.
    - g. Includes a commercialization and emission certification plan that identifies **the marketing** goals for project and clearly describes the path for certification and commercialization.
  - Technical Approach
    - a. Describes the technique, approach, and <u>detailed</u> methods to be used in performing the work described in the Scope of Work. Highlights any outstanding features.
- A LinkedIn page has been created to provide additional opportunities for creating working partnerships for this solicitation.
  - A link will be posted on the solicitation site



# **Funding Information**

 Up to \$4 million of Research and Development Natural Gas funding is available under this solicitation for grant awards with the possibility of additional funding from related program sources with a maximum award amount of \$1,500,000 per distinct project.

#### Match Funding Requirements:

- Match funding is not required, however it will be considered under the additional points of scoring.
- Match funding includes:
  - Cash and/or in-kind contributions
    - In-kind contributions can include but not limited to: donated labor hours, equipment, facilities, and most property.



### **Selection and Award Process**

- For the proposals submitted, a scoring committee will evaluate the projects using the scoring criteria described in Section IV of the Application Manual.
- The scoring committee may conduct optional interviews for clarification purposes.
- A minimum score of 70.00 points is required for the application to be eligible for funding. In addition, the application must receive a minimum score of 49.00 points for criteria 1-4 to be eligible for funding.
- Project(s) will be recommended for funding starting with the highest ranked project meeting the minimum required score in each research topic area until all funds are exhausted.



# California Based Entities (CBEs)

The California Energy Commission's Public Interest Energy Research (PIER) Program will give a priority to "California based entities" (CBEs) when making awards (Public Resource Code 25620.5(h)).

- An entity must meet all of the following requirements to be considered a CBE:
  - Either has its headquarters OR an office in California AND
  - Substantially manufactures the product OR substantially performs the research within California that is the subject of the award.

Please Refer to Attachment 12



### **Attachments**

- 1. Application Form/Cover Page
- 2. Executive Summary
- 3. Fact Sheet
- 4. Project Narrative
- 5. Project Team
- 6. Scope of Work/Project Schedule
- 7. Budget Forms
- 8. CEQA Compliance Form (requires signature)
- 9. References and Work Product Form
- 10. Contact List Template
- 11. Commitment and Support Letters (requires signature)
- 12. CBE Form



## **Proposal Guidelines**

- Either Electronic OR Hard Copy Delivery
- The preferred method of delivery for this solicitation is the Energy Commission Grant Solicitation System, available at: <a href="https://gss.energy.ca.gov/">https://gss.energy.ca.gov/</a>
- Hard Copies must be delivered with an electronic copy included
- The original and copies must be labeled "Grant Funding Opportunity GFO-16-506" and include the title of the application and applicants name.
- Application will not be accepted via e-mail
- Proposals should NOT contain confidential information



## **Grounds for Rejection**

- CEC reserves the right to reject any application and/or to cancel an award for any of the following circumstances:
  - It is received after 5:00 pm on December 2, 2016
  - It contains false or intentionally misleading statements or references
  - It is intended to erroneously and fallaciously mislead the State in its evaluation of the application
  - It does not meet all Stage One screening criteria
    - It contains confidential information
    - The Applicant does not agree to the Terms and Conditions
    - All required documents are completed
    - Does not meet format requirements
  - The proposal proposes a project that has already been addressed or is being addressed
  - The proposal is not for a separate, distinct project from other proposals submitted by the same applicant



# **Grounds for Rejection (cont'd)**

- It is unsigned
- The firm or individual has submitted multiple applications for each task
- It does not literally comply or contains caveats that conflict with the PON and the variation or deviation is not material, or it is otherwise non-responsive
- The bidder has previously completed a PIER agreement and is not compliant with repaying royalties (if applicable)
- The applicant has received unsatisfactory evaluations from the Energy Commission or another California state agency.
- The applicant is a business entity that is not in good standing with the California Secretary of State.
- The applicant has not demonstrated that it has the financial capability to complete the project.



### **Scoring Criteria**

Technical Merit and Need	20	
Technical Approach	20	
Impacts and Benefits for California	20	
Team Qualifications, Capabilities and Resources	10	
Budget and Cost Effectiveness	15	
PIER Natural Gas Funds Spent in California	10	
Ratio of Direct Labor and Fringe Benefit Rates to Loaded Labor Rates	5	
Total Points	100	
Additional Points (awarded only to passing proposals)		
Match Funding	10	
Disadvantaged Communities	5	
Preference Points for California-Based Entities	10	



### **Schedule**

ACTIVITY	ACTION DATE
Solicitation Release	October 21, 2016
Pre-Application Workshop	November 4, 2016
Deadline for Written Questions by 5 p.m.	November 4, 2016
Distribute Questions/Answers and Addenda (if any) to GFO	Week of November 7, 2016
Deadline to Submit Applications by 5:00 p.m.	December 2, 2016
Anticipated Notice of Proposed Award Posting Date	December 2016
Anticipated Commission Business Meeting Date	March 2017
Anticipated Agreement Start Date	April 2017
Agreement Termination Date	March 2020



### **Solicitation Documents**

### Solicitation documents for Off-Road Heavy-Duty Natural Gas Research and Development:

http://www.energy.ca.gov/contracts/pier.html#G FO-16-506

Please make sure to read all addendums



### **Questions and Answers**

Written Questions are due:

November 4, 2016 by 5 p.m.

Please send all PON related questions to Angela Hockaday, Agreement Officer at:

Angela. Hockaday@energy.ca.gov



### **Thank You!**

**Questions & Answers**